SANTA CRUZ BIOTECHNOLOGY, INC.

Bmx (C-4): sc-376686

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Tec family of non-receptor tyrosine kinases is composed of six proteins, designated Tec, Emt (also known as Itk or Tsk), Btk (previously known as Atk, BPK or Emb), Bmx, Txk (also known as Rlk) and Dsrc28C. All members of the family contain SH3 and SH2 domains and, with the exception of Txk and Dsrc28C, also contain a Pleckstrin homology (PH) and a Tec homology (TH) domain in their amino-termini. Four alternatively spliced forms of Tec are found to be expressed broadly in cells of hematopoietic lineage and in hepatocytes. The Emt gene product associates with CD28 and becomes activated subsequent to CD28 ligation. Btk is necessary for proper B cell development, and mutations in the gene encoding Btk have been associated with families suffering from X-linked agammaglobulinemia, also referred to as Bruton's disease. The Bmx protein shares a high degree of homology with Btk and seems to be expressed at highest levels in the heart. Txk expression is T cell-specific, while expression of the *Drosophila* Tec homolog, Dsrc28C, is developmentally regulated.

REFERENCES

1. Yamada, N., et al. 1993. Structure and expression of novel protein tyrosine kinases, Emb and Emt, in hematopoietic cells. Biochem. Biophys. Res. Commun. 192: 231-240.
2. Thomas, J.D., et al. 1993. Colocalization of X-linked agammaglobulinemia and X-linked immunodeficiency genes. Science 261: 355-358.
3. Tamagnone, L., et al. 1994. Bmx, a novel nonreceptor tyrosine kinase gene of the BTK/ITK/TEC/TXK family located in chromosome Xp22.2. Oncogene 9: 3683-3688.

CHROMOSOMAL LOCATION

Genetic locus: BMX (human) mapping to Xp22.2; Bmx (mouse) mapping to X F5.

SOURCE

Bmx (C-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-27 at the N-terminus of Bmx of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Bmx (C-4) is available conjugated to agarose (sc-376686 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376686 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376686 PE), fluorescein (sc-376686 FITC), Alexa Fluor® 488 (sc-376686 AF488), Alexa Fluor® 546 (sc-376686 AF546), Alexa Fluor® 594 (sc-376686 AF594) or Alexa Fluor® 647 (sc-376686 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376686 AF680) or Alexa Fluor® 790 (sc-376686 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376686 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Bmx (C-4) is recommended for detection of Bmx of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

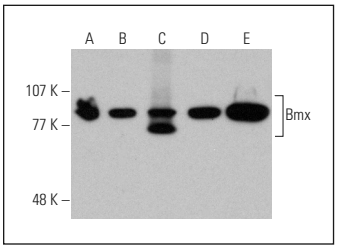
Bmx (C-4) is also recommended for detection of Bmx in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Bmx siRNA (h): sc-38941, Bmx siRNA (m): sc-38942, Bmx shRNA Plasmid (h): sc-38941-SH, Bmx shRNA Plasmid (m): sc-38942-SH, Bmx shRNA (h) Lentiviral Particles: sc-38941-V and Bmx shRNA (m) Lentiviral Particles: sc-38942-V.

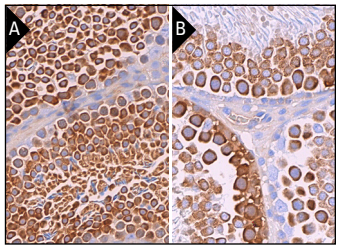
Molecular Weight of Bmx: 85 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A549 cell lysate: sc-2413 or Jurkat whole cell lysate: sc-2204.

DATA



Bmx (C-4): sc-376686. Western blot analysis of Bmx expression in Jurkat (**A**), HeLa (**B**), HUV-EC-C (**C**), A549 (**D**) and CCRF-CEM (**E**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Bmx (C-4): sc-376686. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse testis (**A**) and rat testis (**B**) tissue showing cytoplasmic staining of cells in seminiferous ducts.

SELECT PRODUCT CITATIONS

1. Ciccarelli, C., et al. 2018. Disruption of MEK/ERK/c-Myc signaling radiosensitizes prostate cancer cells *in vitro* and *in vivo*. J. Cancer Res. Clin. Oncol. 144: 1685-1699.
2. Zheng, X., et al. 2022. Single-cell transcriptomic profiling unravels the adenoma-initiation role of protein tyrosine kinases during colorectal tumorigenesis. Signal Transduct. Target. Ther. 7: 60.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.